REMARKS

Claims 1, 2, 5-7, 9, 13, 15, and 20-23 are pending in this application. Claims 9 and 20 have been revised to use alternative language to embrace the intended subject matter of feed additives comprising the proteins of claims 1 and 2. Claims 5 and 13 have been canceled without prejudice to re-presentation in a continuing application.

No new matter has been introduced, and entry of the above revised claims is respectfully requested.

Rejection Under 35 U.S.C. § 112, First Paragraph (Written Description)

Claims 5 and 13 stand rejected under 35 U.S.C. § 112 first paragraph as allegedly failing to comply with the written description requirement. Applicants respectfully traverse the grounds for this rejection and submit that the instant specification fully supports the invention embodied by claims 5 and 13. However, in order to advance prosecution of the instant application to allowance, Applicants have canceled claims 5 and 13 without prejudice to re-presentation in a continuing application. Therefore, Applicants respectfully submit that this rejection is now moot and may be properly withdrawn.

Rejection Under 35 U.S.C. § 112, First Paragraph (Enablement)

Claims 5, 9, 13 and 20 stand rejected under 35 U.S.C. § 112 first paragraph as allegedly non-enabled by the present specification. Applicants respectfully traverse the basis for this rejection because no *prima facie* case of non-enablement is present with respect to revised claims 9 and 20. As indicated above claims 5 and 13 have been canceled.

Applicants submit that one of ordinary skill in the art would be able to practice the full breadth of the invention embodied by revised claims 9 and 20 without undue experimentation based upon the instant disclosure and general knowledge in the fields of feed additives and recombinant protein expression. For example, the scope of the claims raises no issue of inordinate unpredictability or experimentation beyond that which is repetitive and routine. So put differently, there is no issue of undue experimentation in placing a protein of claim 1 or 2 into a feed additive as encompassed by claims 9 and 20.

With respect to the statements in the statement of the instant rejection concerning a phytase pre-protein, Applicants respectfully disagree. A signal sequence of an enzyme only takes part in the secretion of the enzyme and generally does not alter enzymatic activity of the enzyme. Thus, one skilled in the art understands that an enzyme containing a signal sequence thereof has similar enzymatic activity comparing to mature form thereof when expressed recombinantly.

Indeed, Applicants demonstrated that a recombinant phytase with the amino acid sequence of SEQ ID NO: 7 expressed in *E. coli* had enzymatic activity (see Table 1 below).

Table 1. Activity of recombinant phytase (SEQ ID NO: 7)

	Recombinant phytase purified from *E. coli* (containing signal sequence)
Specific activity	1122 U/mg
Optimum pH	pH 4.0
Optimum Temp.	50°C
Substrate specificity	sodium phytate

Because the recombinant protein with a signal sequence retains phytase activity, no issue regarding activity of the claimed proteins is present.

For the reasons provided above, Applicants respectfully submit that the instant rejection is misplaced and may be properly withdrawn.

Conclusion

It is believed that the application is now in condition for allowance. Applicants request the Examiner to issue a notice of Allowance in due course. The Examiner is encouraged to contact the undersigned to further the prosecution of the present invention.

The Commissioner is authorized to charge JHK Law's Deposit Account No. **502486** for any fees required under 37 CFR §§ 1.16 and 1.17 and to credit any overpayment to said Deposit Account No. **502486**.

Respectfully submitted,

JHK Law

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